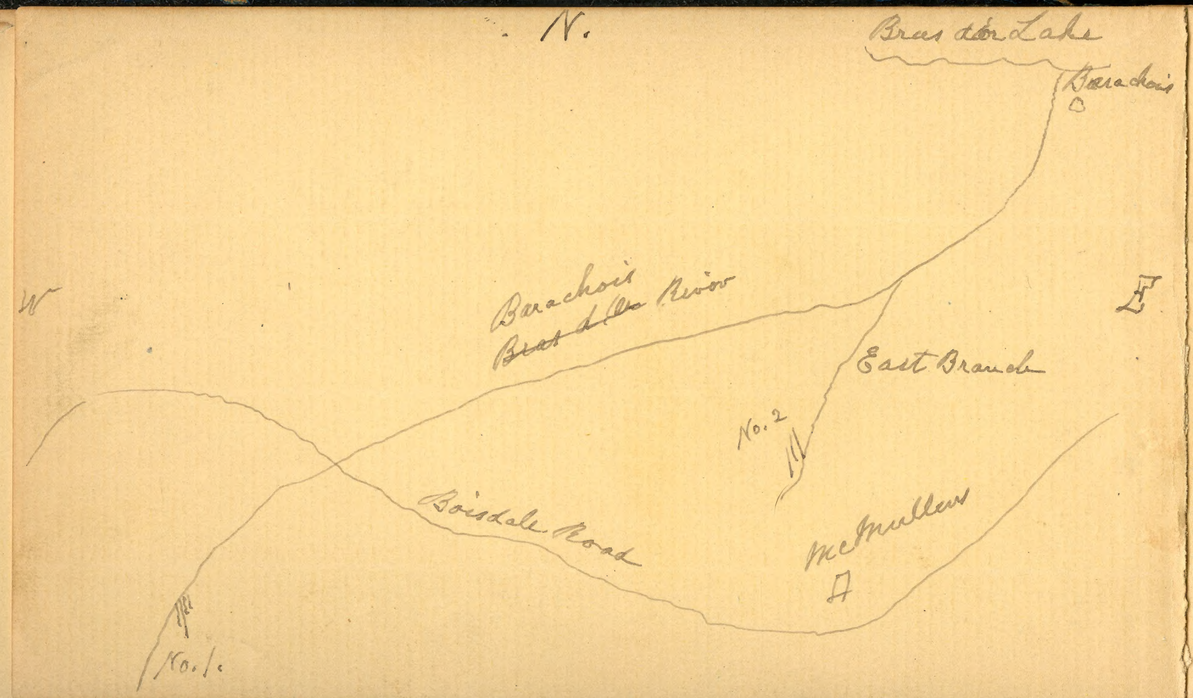
Nova Scotia.
Cape Breton
Loper 1901

U. S. GEOLOGICAL SURVEY

9–896

SHOUT
SHARE
IT

H. Ward Leiper.
U. S. Geo. Survey.
Cape Breton.
N. S.
1901.

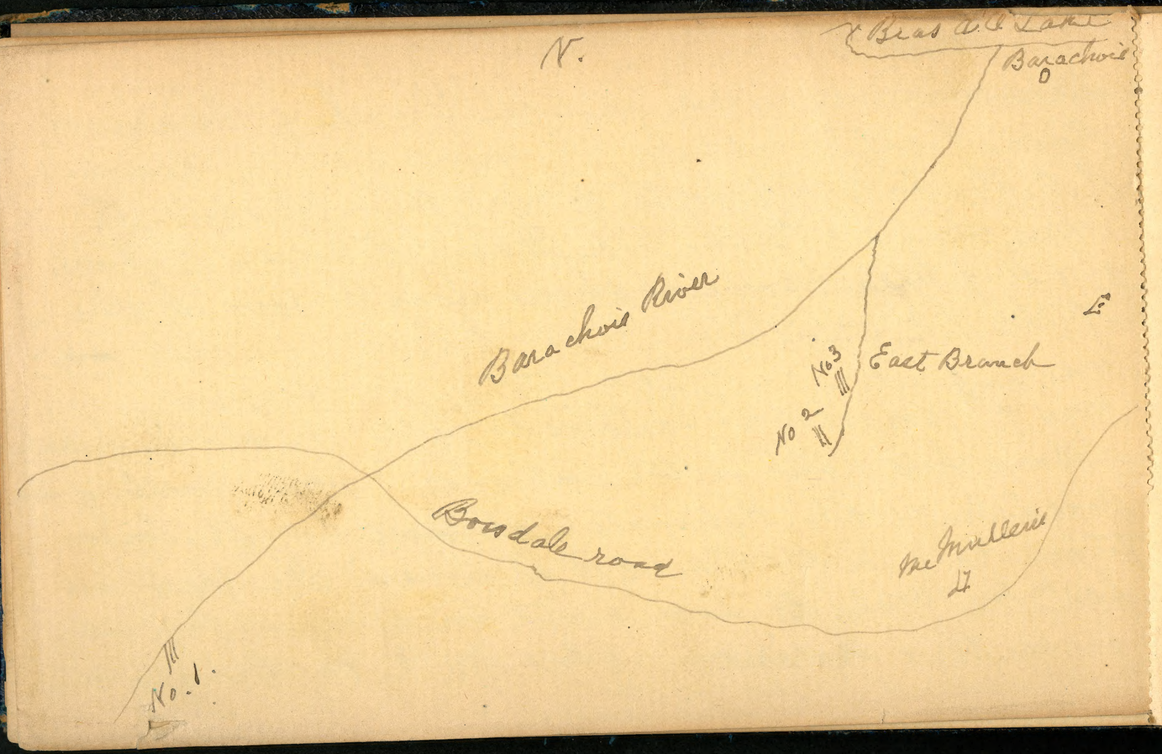


Monday, June 3d 1901. 1

Commenced work on east bank of Barachois River, East Boisdale. 1½ miles east of Boisdale R.R. Station ¼ mile south of road from Boisdale to Upper Leitches Creek, Cape Breton. Exposure of about 200 ft of Upper Cambrian shales along the river bank. Strike N.E. & S.W. Dip 50° S.E. Collected 160 shells. ~~Fossils~~ Fossils.

Bed No. 1 on Diagram.

June 4th. On one of Dr. Mathews localities on small branch of Barachois River on the east side, ½ mile north of the Boisdale road. Estimated at least 200 ft. lower than No. 1. Collected 200 specimens. The specimens sent Dr. Walcott last winter in a cigar box were from this horizon. This No. 2. on Diagram.



Wednesday, June 5th. 2.

On same horizon as yesterday - No. 2.
Collected 160 shells and one fair Trilobite.

Just at night found a bedding farther north on the same east branch ~~quarter~~ of a mile north, and much lower, dark, bluish shales carrying very small shells & a few Trilobites.
Bedding No. 3.

Thurs June 6th Worked the locality found last night. Found shells not seen before, also found a few good Trilobites. Had to change the course of the water in order to get at the shales which lay in the bed of the river. Collected in all 150 Specimens
This locality not worked by Dr Matthew. Is 200 ft lower than No. 2
This horizon No. 3 on Diagram.

Friday, June 7th

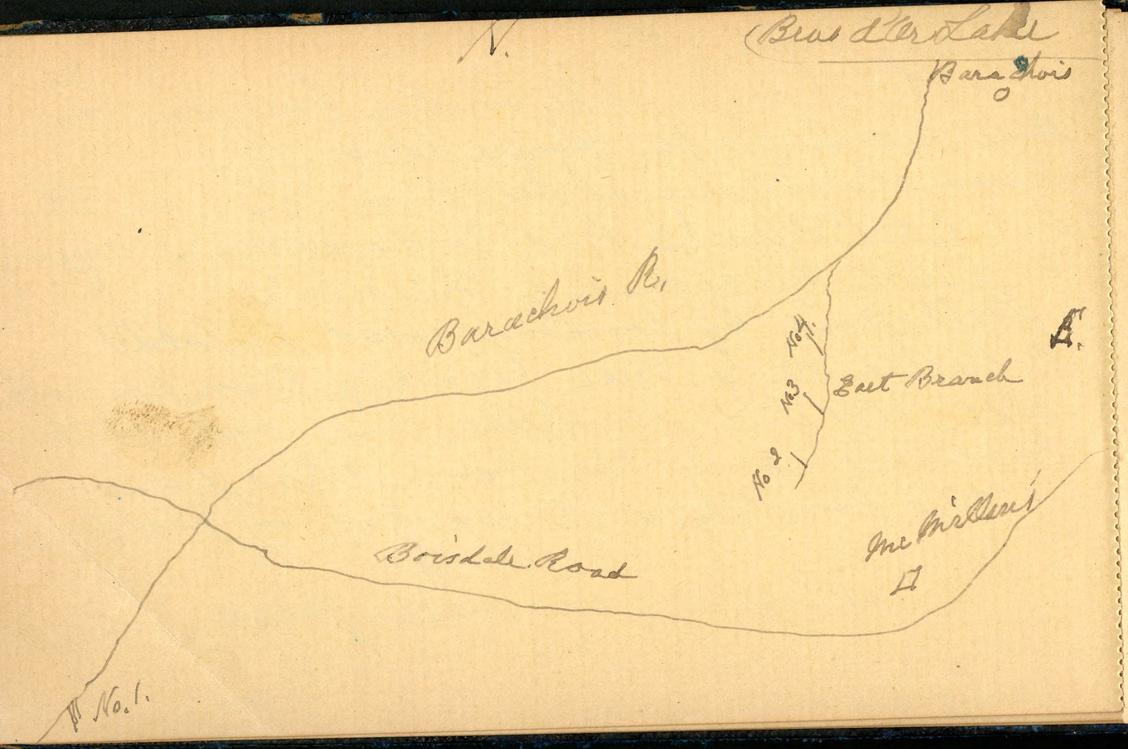
Found still another horizon on East Branch. 50 ft. Lower than No. 3. Same bluish gray shales. These also in the bed of the brook & had to do extensive digging to divert the course of the water.

Well paid by finding good Trilobites. Collected 32 of these, some of them fine ones. Also collected 75 shells. Dip and strike continues about the same thus far.

This locality not worked by Mather.

No 4

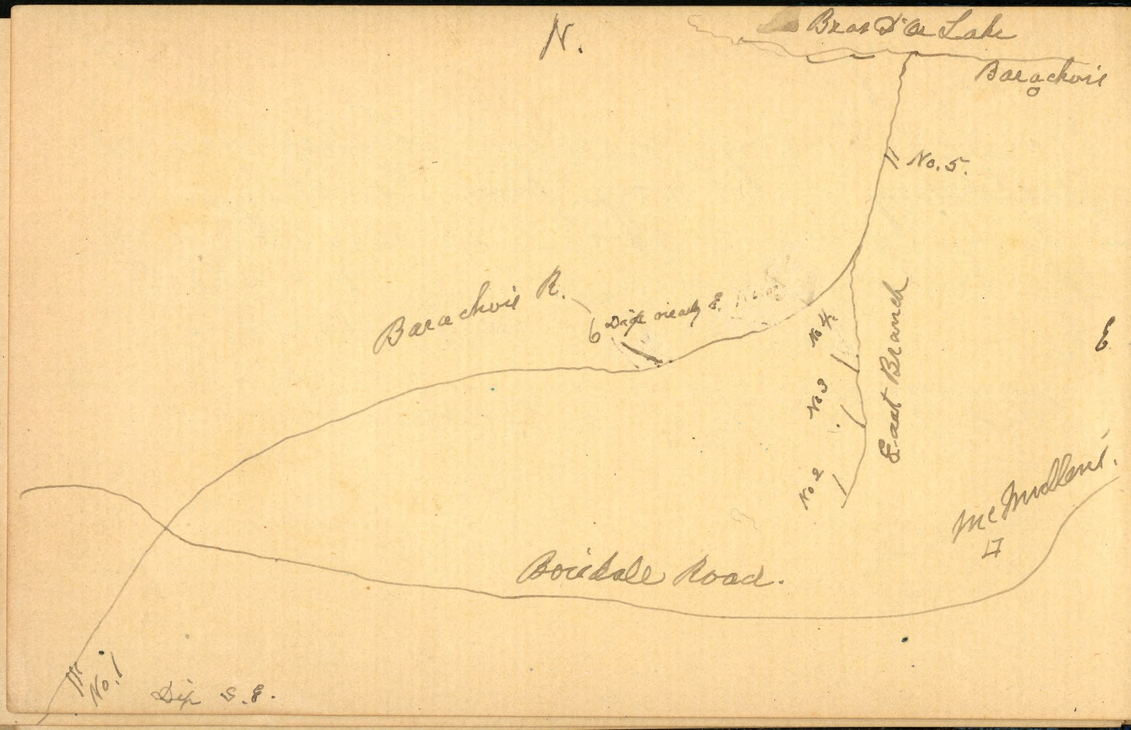
Diagram on next page.



Saturday, June 8th. 4.

Worked today on same horizon as yesterday. A very fine locality. Found over 40 good representations of the Trilobites and nearly 100 shells. In all 130 Specimens. 900 Spec to date.

This is bed No. 4 on Diagram.

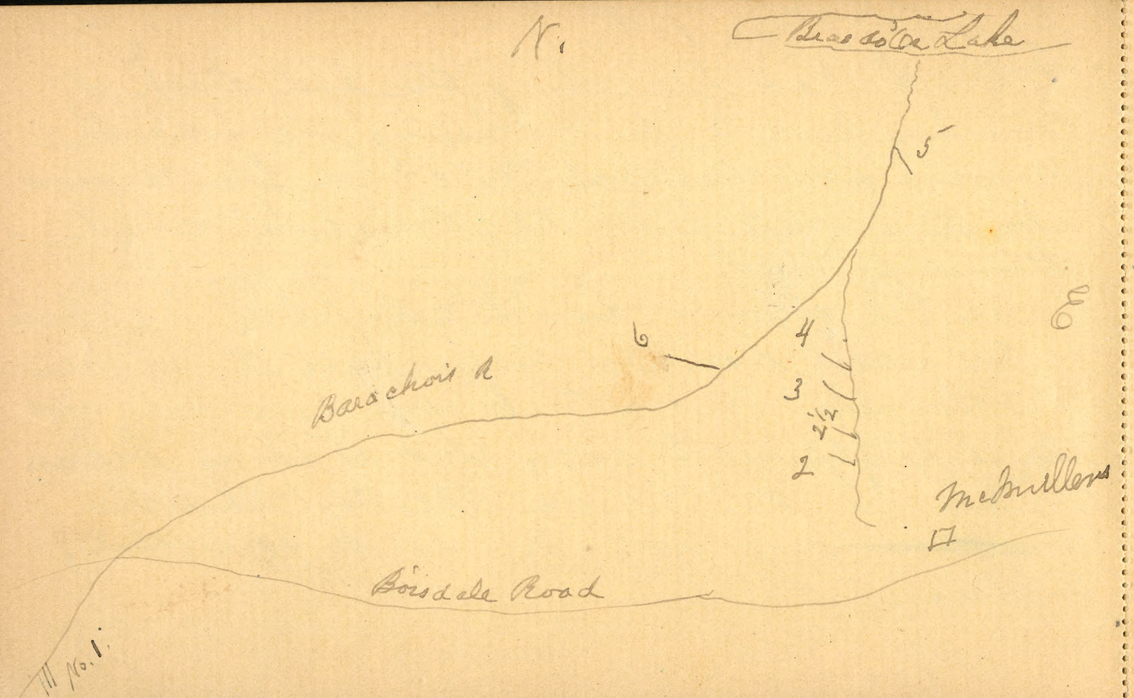


Monday, June 10th.

5

Searched along the east bank of Barachois River to the N. during the forenoon. Found a few shells at No. 5 on the diagram about 1 mile from the Boisdale road. Obtained 25 spec.

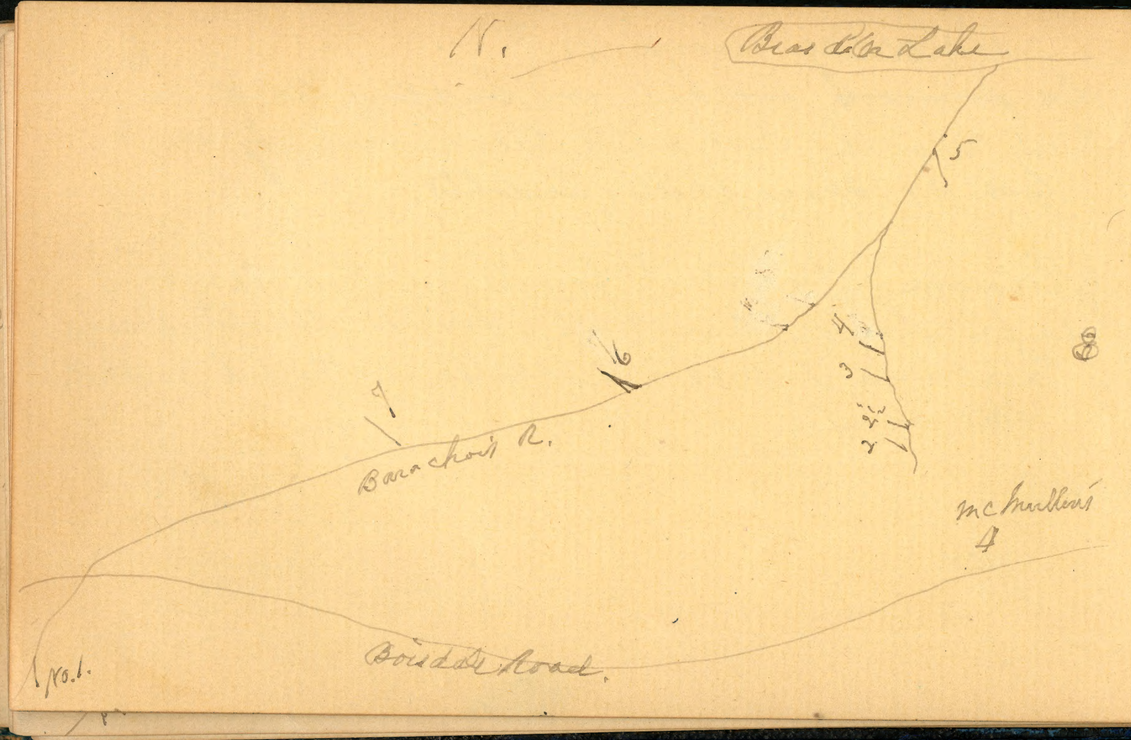
In the afternoon located Trilobites and shells on the west bank of Barachois R. about the Branch. This is No. 6 on diagram, and the dip appears to carry this bedding below the shales at No. 4, on the East Branch. Secured 80 spec shells & Trilobites.



Tuesday, June 11th. 6.

In forenoon worked on bedding No. 4 on East Branch. Excavated the locality by noon. Got 37 spec. shells & Trilobites.

Afternoon - Located fossils on East Branch 25 ft. lower than No. 2. Small trilobite heads & tails and few small shells - collected 87 spec. This No 2½.



Wedns. June 12th.

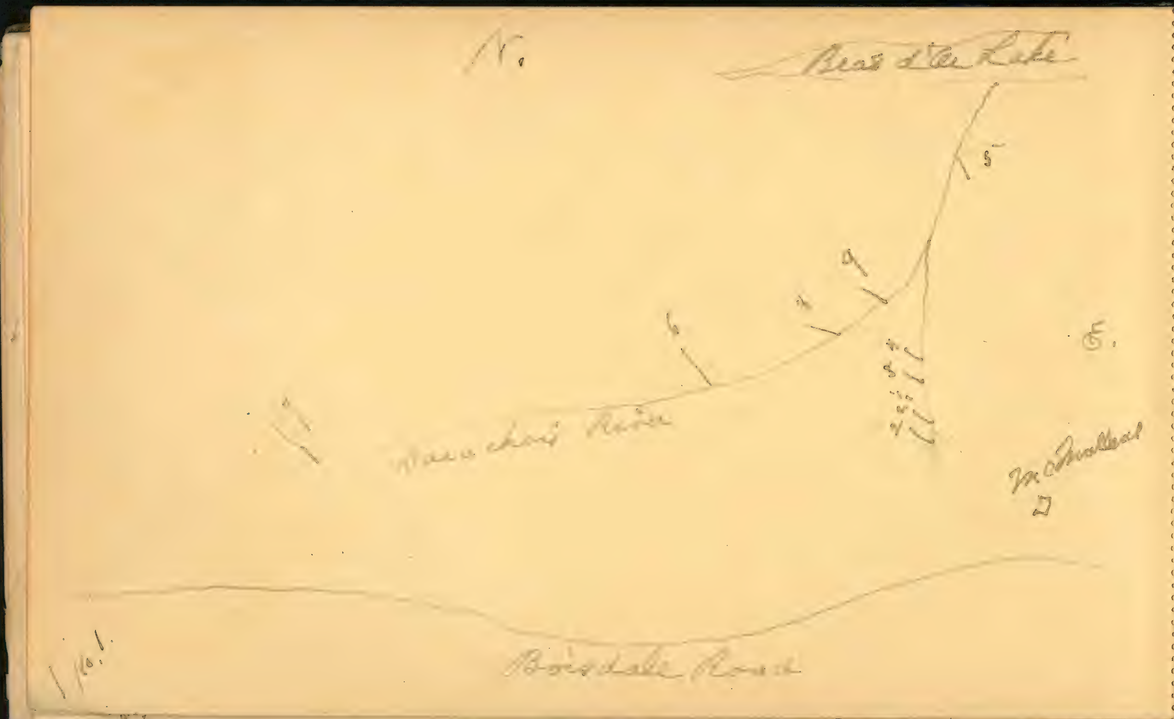
7.

In forenoon worked horizon No. 6 on West bank of Baracho's R. A narrow strip of meadow lies between the high cliff & shales and the river. This bank belongs to Kenneth McMullen. Found heads & tails of trilobites - 50 specs in all.

In afternoon opened another horizon about 50 ft. ~~from~~ below No. 6 This bedding only a short distance north of the Boisdale road. Got 150 shells and 1 trilobite.

This No. 7 on Diagram.

7



Thursday June 13th

In morning worked on No. 1 which was worked on June 8th. Secured 220 shells & 1 trilobite. Afternoon searched ravines on west shore of Barachois River without success.

Just at night found indications & trilobites on West Bank of Barachois River 100 higher than No. 5. Shall work this locality tomorrow. Will be No. 8 on Diagram.

Apparently lower than the horizons on East Branch

Friday June 14

Worked the new bed found last night.
Trilobites Abundant, some Shells.
Secured in all 140 Specimens, mostly Trilobites.
Quite a number nearly Perfect.
This bed differs very perceptibly from
work it thoroughly. Indeed I consider
the beddings on the East Branch.
It is near the top of the Bluff. Owner of
the land came down and ordered us off at
noon but succeeded in pacifying him by giving
him $2 for privilege of working. His name is Kenneth
McMullen. I suppose there was an understanding with him.

Saturday June 10 06

10.

Searched down Barachois Glen towards Barachois. ~~Some~~ Some ground gone over last year. Found one bedding lower than the one worked last year. Got 7 shells.

Then went up the glen & the ravine worked last year and collected 7 shells.

Monday June 17th. 11.

Worked on Locality or Horizon No. 5 on Barachois Brook. The finest locality yet opened. Got 120 good specimens of all Trilobites, Shells & Hyolithes, & some things not seen before. Must have secured nearly 100 spec's of Trilobites & two or three species. Several of them extra fine ones.

June 18th Engaged as secretary. Got 140 good specs. mostly Trilobites & a few fine shells.

Wedns. June 19th 12th

On D9 & today
shall follow up this bedding.
Got 145 Spec's. Some very complete
Trilobites, but not as good as yesterday.
Found today five Glyphites and some
very peculiar forms with which I
am unfamiliar.

Whole Number of Spec's. collected
since June 8th & date 2269.

~~Tuesday~~ Thursday.
June 20th.

Still working No. 5. Working deep into the bluff in hard shale. 135 specimens today. Several whole Dilobites and very fine ones. Too. Also fine Hyolithes and a number of the peculiar forms found yesterday.

This locality a famous one

Friday June 21st. Collected 150 spec on No. 8. 10 whole Trilobites. Most of the specimens trilobite and fair heads & tails.

Saturday June 22nd

Sorry to record that No. 8 was exhausted today. Got 105 spec. only 3 whole trilobite. About 50 ft higher found a few fragments of Trilobites and some small shells too numerous — In all today 120 spec.

This last locality No. 9

Monday June 24th

Raining today but went about 2 miles down Barachois Glen 3 miles from Barachois, where I worked last year. Worked under an umbrella. Horse shells very abundant and similar to those in No. 1. on Barachois River. Worked under difficulty on account of the weather but secured 300 small shells. Many of them very fine

Have collected & packed to date 2,974 shells.

Tuesday June 25th 16th

Very wet day. No work.

Labels in bundles for the
17th page are entered on the labels
for 16th page – should be 17th pg.

Wednesday June 25th

Worked today in Zaire in Beaches
taken same as on Monday.
Collected 200 shells.
Found 200 ft higher up a horizon
carrying Dictyoneura Collected a
few that night. May work there
again.

Thurs. June 24 West towards the head of Barachois River 2 miles S of Birchdale road. Found several outcrops of dark shales, thin-bedded evidently Upper Cambrian, along the river in high cliffs. At one point ½ mile N. of the bridge on the McNeil farm road collected 100 shells and a few Dictyonema.

June 25 Collected 100 shells in cliff in Barachois glen - 1½ miles from Barachois - a new locality on east side of the glen close to Upper Leitches Rock mountain on John Morrison's land.

Also collected 50 specs of Dictyonema 3 miles from Barachois southwest of above locality.

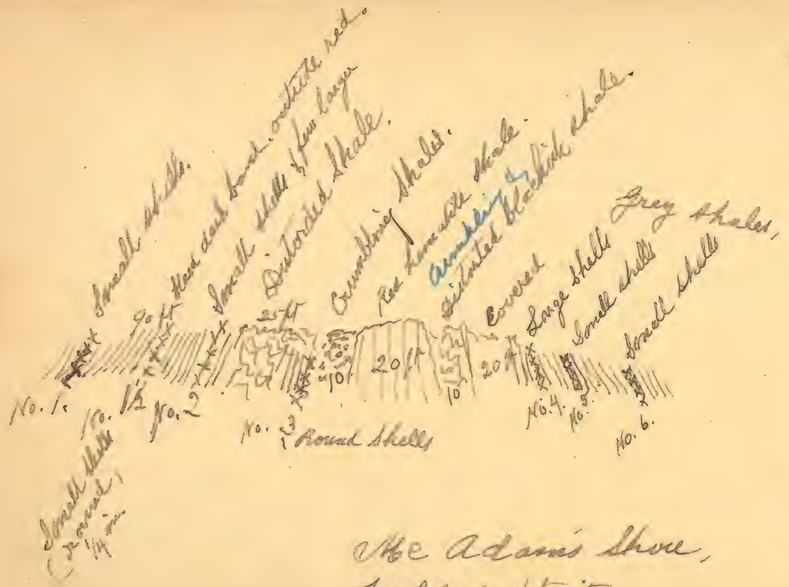
On what I understood Mathew & I call Stechemmian at Barachios. Unable to find any fossils at the point he designated. On the shore of the Lake opposite that point I found two band of hard calcarious rock in the shales showing many fragments of shells. Obtained in one band ~~a few~~ one small perfect shell. A Lingula.

This is north of Railroad Station near deep cut on the way to Georges River ½ mile north of the Station

Monday, July 1st

West to Barachois again and searched the Stelenmuian again but could not find any of Mathew fossils.
Collected 25 specimens of the Trigonotarbi fossils on the horizons worked & studied and represented in Diagram opposite Page.

July 12th Dr. Mathew States today that there is no Stelenmuian at Barachois. Says that it was a "slip" of his tongue when he said Stelenmuian.



Mc Adams Shore,
Folded Strata.

(We strove diligently but could not find anything at all. The specimen he named he found in Lake Shale on the shore. Glacier cuts it very near with him.)

July 2nd

Drove 12 miles to the Adams Shore on East Bay Peninsula. Got there at noon and secured board and lodging with John Mc Adams. After dinner went to the shore and found outcrop of shales coming down within 10 or 15 ft. of the water. Examined the shales along the shore and found several horizons carrying shells. Collected 8 specimens from No 4 & 5 of the diagram.

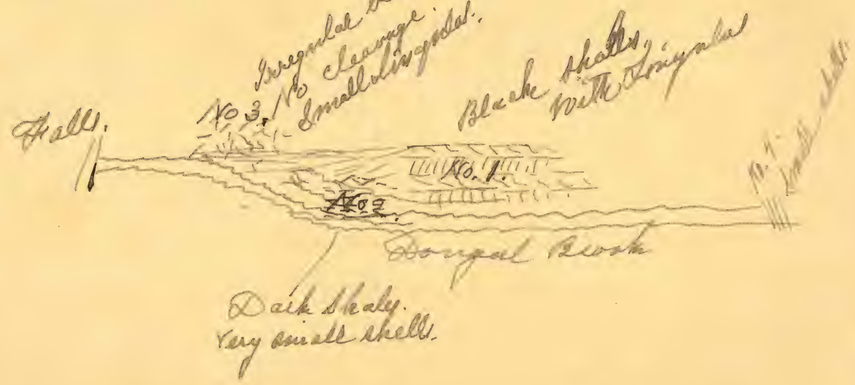
Wednes. July 3rd.

Collecting from all the beddings on Mc Adam's Shore.

125 species in all. Very good.

This Mathew says is Etchaminian.

July 12th Indian Bridge



200 Yds below No. 1 found small shells in pinkish grey shale.

Thurs. July 4th. 23d

Etchaminian

Hired McAdam to carry us to the Indian River localities six miles from McAdam's shore. Examined shales along Indian River as far as the Bridge at foot of McPhee's Hill. Climbed McPhee's Hill and hired Vincent McPhee to show the way to the fossil beds worked by Dr Mathew on Dougal Brook ½ mile N. of McPhee's. This brook runs into Indian River just below the Falls collected 75 fine Strigulas, all No. 1 on diagram. In a strata a few feet lower found very small shells in No 2. In No. 3 very fine small Strigulas. July 12 Mathew says this is all Etchaminian.

200 Yards below the Falls found a thin bed of pinkish grey shales with numerous very small shells collected on all 259 discs.

Friday July 5th — Etchemmian

In morning Mc Phee took us to a small brook on west side of the road on the hill ~~leading~~ below his house where in a coal black massive-like shale we found several species of Brachiopods, collected 125 specimens here. In the afternoon worked on ~~[illegible]~~ brook and collected a few shells—25. Gregwa

Went at night—went down on Mt Adams shore and collected 46 of the beautiful shells in the red colored shale, red outside but ~~[illegible]~~ black

No 1½ 199 in all

All

Spec. collected & date 7.7.04

Saturday, July 6th.

Neil Johnson came for us from Upper Leitches Creek. Got back there about noon.

In afternoon finished boxing up specimens and packed baggage & tools to go to Watts Sidney on Monday.

Monday, July 8th.

Hired team to cart 5 Boxes of Specimens to North Sidney - 14 miles. for $2.00

Hired Johnson for $1 - to carry myself and baggage & tool to Bridale R. R. Station - 6 miles. to take train for N. Sidney.

Staid overnight in Sidney at Leonia Hotel

Tuesday, July 9th

Shipped Boxes at N. Sidney. via Plant Line to Washington

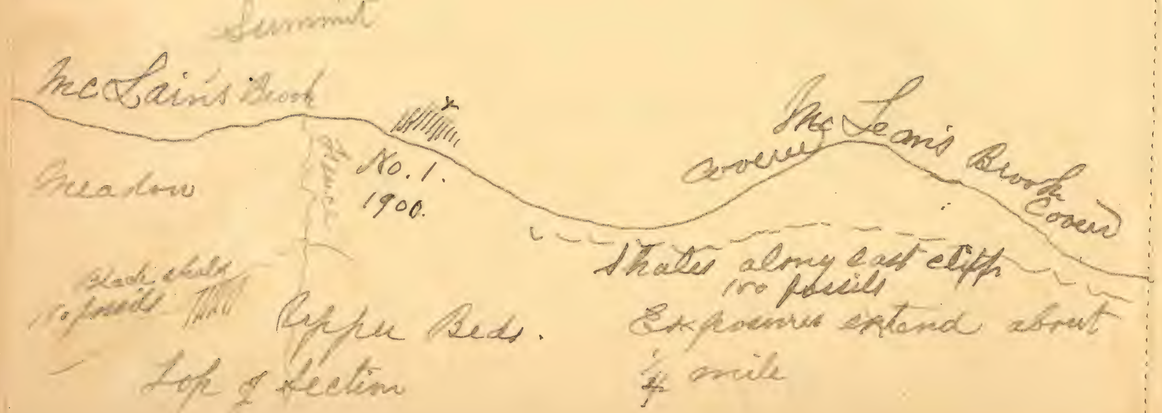
Telephoned for team from Marion Bridge.

Got there just before Sundown.

Wednesday July 10th. 29

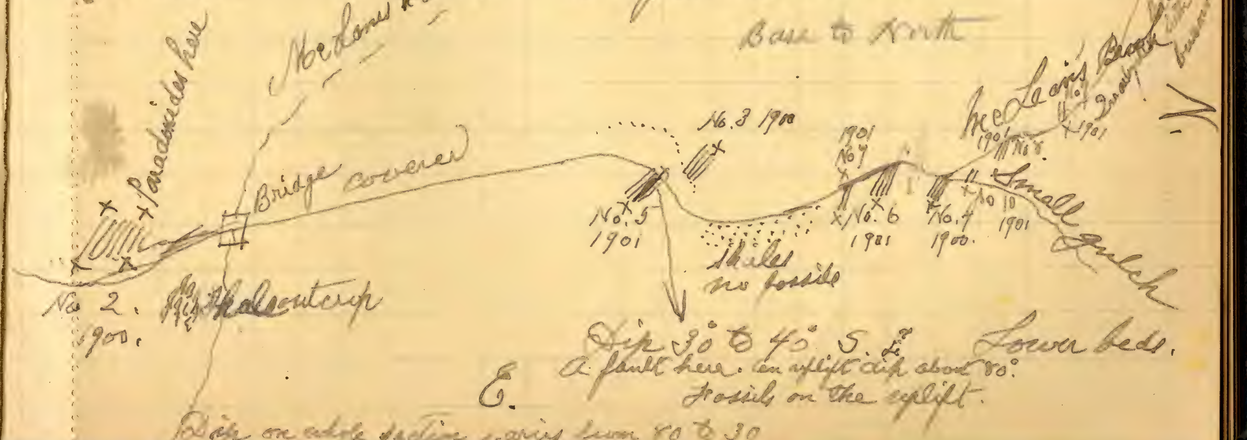
Worked on McMinnis brook till 10 o'clock
Raining a little and bushes to wet. Went over
to McLane's ravine. Worked awhile on No. 3
of last year's diagram. No success.
At 2 P.M. found a new outcrop of fossils
on the east side of the river in the high
bank. Fossils numerous and finely preserved.
These overly the shales of No 3. Collected 125 fine
specimens. Bedding No. 5 of Diagram on
next page. Thus 1901

On Page 40 all the beds of the Section are represented as measured from the base.



Thursday July 11th

Collected 148 Shells at No. 5 same as yesterday. In afternoon found another fossil bearing strata at No. 6. many small long beaked lingula. Collected 43 specimens here, shall work it again tomorrow.



Friday July 12th. 29

Worked on No. 6 collected 100 specimens
Dr. Mathew came at noon.
Spent afternoon in going over the McLean section.

Asked him to go to McAdams Rock but he said that he could not. Said he had no time to do so

Saturday, July 12th 30°

Worked part of the forenoon on No. 1 & 6
Specimens very fine. Took out 50 more.
Found a bedding 30 ft higher having
a few large shells. Got 20 specs of these
and a few small shells. could find no
more. Went to No 2 of last year and
began excavating there, uncovered the
fossil bed. Shall work it on Monday
No 2 is the Paradoxides bed.

Monday July 15th.

Working on No. 2 - Paradoxides zone.
Collected 100 shells & fragments of
Paradoxides.

Tues. July 16

Made fine collection of 125 specimens on No. 2 Paradoxides zone.
Good Hyolithes & Bryozoan-like forms (fine)
Best shells yet found on this bedding.

5.437 To date

Wednesday July 17

Wet morning. Packed & Boxed specimens

Afternoon went on No. 2 McLane's track

and got 68 spec. Nine Nyssitites &

Large shells & fragments of Paradoxides

Thursday July 16th

Went to the Trout Brook locality 4 miles east of Marion Bridge on Matthew's Ekwan in Found exposures along the Bengal road for 2½ miles of Etchemin slates, or greyish purple slates resting on small thickness of red and purplish and greenish shale. The outcropping is about half a mile wide with base on McInnis Lake with summit toward Trout Brook. Worked hard all day but utterly failed to find any signs of fossils. Shall go over there again.

Hodgsons & Pleasant

Matthew says this is the best outcrop of Etchemins he has ever found but states that he has no fossils from there. 10 specimens

Friday July 19th

Every indication of a rainy day. Thought not best to go to the locality visited yesterday.

Went to McLain's brook and made some measurements of beddings. Found two new outcrops of fossils above the fork of the small gulch and the brook the first new outcrop is 30 ft. lower than No 4 of 1900. as shown on the diagram. This bed is No 8 of this year diagram.

The fossils are found in two beds 15 inches apart ~~& the beddings~~ & at 1 inch band at the top carrying a very small Lingulella & this sign, and smaller, below this rich band all several species of Brachiopods. Collected 100 specimens

Went at night found another layer of fossils 6 ft above a thick bedding of Quartzite

Saturday July 20th.

~~Worked~~ Worked in forenoon on the lower bed of fossils found yesterday. This is No. 7 1901 and lies about 6 ft above the large ledge of sandstone. Fossils not very numerous but finely preserved. Secured 60 specimens of Lonchidiellas and obolus-shaped.

Followed the brook to its source in a ravine to the N.W. where it entirely disappears as a brook. The whole length of the brook is about ½ mile.

Just at night discovered an outcrop of fossils in the short gulch running to the east just above No. 7. This No. 10 1901
6 new kinds of fossils discovered on this claim this year. Cable 19

Monday 22nd

Wet in forenoon. Packed specs & wrote letters.

Aft. Went on McLains Brook. Worked the outcrops in the gulch leading East from the brook found Saturday night. Only secured about 50 specs.

Tuesday 23d. Went again to Mathews Ck Seminiera at Trout Brook. Found no fossils.

On way home stopped at Morrisons brook and collected a few of the trails found there last year. 12 sp

Wednesday July 24

W9

9—161.

UNITED STATES GEOLOGICAL SURVEY.

SURVEY OF THE 3 1 *In charge.*

No. Name:

LOCALITY: Gulch leading from McLeish Brook to the N End. Marion Bridge 8 B Bedeque 7

Collector: S. Ward Foper

Date: July 22 1901

Note Book: 1

Page: 36.

Memoranda:

9—161.

UNITED STATES GEOLOGICAL SURVEY.

SURVEY OF THE 3 i of 1902

In charge.

No. Name:

LOCALITY: McLains Brook
Marion Bridge
Cape Breton
No. 1 of 1900
of Diagram

Collector: S. Ward Loper

Date: July 24 1901.
Note Book: 1
Page: 37

Memoranda:

9—161.

UNITED STATES GEOLOGICAL SURVEY.

SURVEY OF THE 3 1

In charge.

No. Name:

LOCALITY: Gulch leading from McLain's Brook to the N. End. Marion Rudyerd B. B. Bedam 7

Collector:	Date: July 22 1901	Memoranda:
S. Ward Foster	Note Book: 1	
	Page: 36	

Wednesday July 29

In forenoon working on Mc Adams brook
As usual found nothing

Afternoon on No. 1 on Mc Cains brook
found about 100 of the small shells

Thurs. July 25th.

Drove south 13 miles as far as Gabbrous by way of the French road, coming back on the Big Ridge road. Found great outcroppings of the Blackwarrior slates and of the red & purple fine arenaceous shales. Especially on Big Ridge 6 miles south of Marion Bridge. No fossils to be found.

Friday July 26
On McNeils Brook one mile east of Marion Bridge on the River road. Secured 2 fine shells. This worked last year.

Sat. July 27 - Measuring up the bedding on McLaird brook.
Measurements on next page

Refer also to diagram of brook, page 25.

Section on McLains Brook. 1900.

Descending:

Starting at the north fence of the McLain meadow. Upper Cambrian

70 ft. Black crumbling distorted shales.
20 " Covered.
40 " Very dark shales. In 4 in. hard band small shells. No. 1. 1900
50 " Covered.
200 " Shales on east side ravine. Conformable.
150 " Covered.

Middle Cambrian.

40 ft. Greyish shales. Paradoxides at 20 ft. No 2. 1900.
30 " Covered.
50 " Greyish shales with hard bands near the base of the outcrop. No. 3. 1900
30 " " " dip 30° at the base of the 30 ft. a fault. here the dip 80° and on the face of dip numerous fossils. No. 5. 1901
40 ft. Covered by debris, probably continues shales
30 " Regular bedded shales with numerous hard bands. Small outcrop of shells Large & small. Base No. 7. 1901.
60 ft. Similar bedding. At the [illegible] a band of hard rock prolific in shells gregarious. No. 6 1901
25 ft. Some shales at the [illegible] fossils. No. 4. 1900
15 " " " To a gulch running east from the brook a few fossils here. No. 10. 1901.

Same shales
20 ft. On base of this 20 ft. 2 beds of fossils 18 inches apart carry in lower horizon very small Lingulella. No. 8. 1901
10 " Quartzite in fractured bands
12 " Greyish shales. Lowest fossil bed.
6 " " 1 in. band at [illegible] fine shells. No. 9. 1901
15 " Hard Quartzite, almost massive.
30 " Greyish shales with calciferous veinings
1 " Quartzite
60 " Coarse greyish shales with calciferous veins
70 " Bands of Quartzite
30 " Grey shales weathering brown
18 " Quartzite weathering nearly white
30 " Thin bedded nearly black shales weathering yellowish brown
30 " Covered
15 " Thin greatly fractured blue black shales.
15 " McLains Brook here runs into large swamp & finally disappears.

Some of these beddings may be repetitions, could not however determine them to be such.

The fossil horizons were numbered as discovered in 1900 and in 1901. Therefore do not come numerically in order. The labels correct.

Monday July 29th.

Packing up Baggage and Specimens and getting ready to go to Sidney.

Tuesday, July 30th.

Rory McDonald carried self & Boxes & Specimens & Baggage to Sidney. Afternoon shipped Boxes on Steamer Yarmouth.

Wednesday July 31st

Very Stormy day.

Friday Aug. 2nd.

Went on Upper Cambrian beds in Barachois Glen. Searched beddings nearly to Barachois. Returned & Cliff on east side of Glen on John Morrison's land ½ Miles from Barachois worked June 28 – collected 125 Brachiopod & a few Dictyonema.

Here Saturday, Aug. 3d

Went on to No. 8 on Barachois River - Paradoxides zone and collected 80 specimens

Monday Aug. 5th

Murdock Johnson carried me to Mc Phee's on Indian River in the afternoon. Forenoon very stormy.

Got to Mc Phee's at Sundown.

Carried our provisions with us and lodged in Mc Phee house.

Struck Bugs good & strong.

To match Labels
ship to 50

Tuesday Aug. 6th

Hired McPhee to work with us at 1,00 pr day.
Went to Dougal Brook and followed the brook
from Muromin down to the Falls. Collected a few of the
brachiopods about the Falls. Collected in 1 2 & 3
57 specimens. ~~[illegible]~~ In No 1 found good Hyolithes.
followed the brook to Indian River tracing the beddings
according to diagrams.
Collected a few Lingulas in
dark band in old quarry about McPhee's house.
18
in all 167

Diagram of Dougal
Brook Section on Seperate Sheet
delivered to Mr. Walcott.

Wednesday Aug. 7th

On Wiskwar Brook
Called at our previous visit by Mc Phee.
(Gregwa.) According to Walter Gregwa (Indian name)
Traced up the beddings and
noted Lithological characteristics according to
diagram and collected in steel grey beds No
37 specs and in dark bed No - 7 specimens.
Fossils not numerous. On Mc Phee Brook
found 19 specimen in the dark bedding same as
at Dougal Falls No. Afternoon to Dougal Brook and
found five species - some new in No 1. good Hydrolithes / shells not seen before
in decomposing rock in jointings. Found & worked 3 higher horizons several
hundred ft. lower. No 5 6 & 7 - In all 70 specimens. Diagram ~~of strata~~ type.

Thursday Aug. 8 Returned to Pepper Ditches Creek. Left McKee at 6 A. M.
Reached Johnsons about 2 P. M.
Packed 1 Box specimens and got baggage ready to start homewards tomorrow.
Aug 9 Started for Boisdale at 5 A. M. to take the train.